Serial Number: 10/675,007

Filing Date: September 30, 2003
Title: WIRELESS NETWORK ROAMING TIMER METHOD AND APPARATUS

Assignee: Intel Corporation

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# **IN THE DRAWINGS**

Formal drawings are supplied herewith.

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### **REMARKS**

Applicant has reviewed and considered the Office Action mailed on <u>February 3, 2006</u>, and the references cited therewith.

Claim 1 is amended, and no claims are canceled or added; as a result, claims 1-30 are now pending in this application.

# '102 Rejection of the Claims

Claims 1-30 were rejected under 35 USC ' 102(b) as being anticipated by XP001103127 (Dong-Jun Lee, et al "on Optimum Timer Value of Area and Timer-Based Location
Registration Scheme", April 2001, IEEE Communications letters Vol. 5, Number 4, pages 1-3.).
Applicants respectfully traverse this rejection.

The Lee reference describes a location registration scheme to update the location of a mobile station (MS) that moves around. See the Abstract of Lee. The "MS performs location update when it enters a new location area and updates the location information based on location update timer during residence within the same location area." See column 2, page 1 of Lee. Lee determines the "optimum timer value of the MS based on the speed and call arrival rate of the MS for area and timer-based location registration method." See column 2, page 1 of Lee. When a call arrives for the MS, paging is performed using the location information. If the location information is accurate, less paging resources are utilized to complete the call.

The claimed invention, in contrast to Lee, refers to a timer to delay roaming or a roaming attempt made by a wireless network client. Roaming and roaming attempts are described on page 3, lines 3-13 as follows:

Mobile station 102 may periodically "roam," or "attempt to roam." As used herein, the terms "roam" and "attempt to roam" refer to the actions taken by a mobile station when deciding whether to end a current association ("disassociate") and make a new association with a different access point. In some instances, roaming occurs when a mobile station performs a scan of available access points and decides to disassociate with the current access point and re-associate with a different access point. In other instances, an attempt to roam occurs when a mobile station performs a scan of available access points, and does not disassociate with the current access point. This may occur when the

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mobile station scans to see if a "better" access point is available, and decides to maintain the current association rather than disassociate with the current access point.

Individual claims are now discussed. As an initial matter, Applicants traverse the statement repeatedly made in the Office Action that "XP-001103127 discloses essentially all the claimed invention as set fourth in the instant application" (sic). Applicants respectfully submit that this conclusory statement is not supported by any reasoning or evidence in the Office Action.

Regarding claim 1, applicants traverse this rejection as described above. This traversal notwithstanding, claim 1 has been amended to more clearly recite that the "metric represent[s] a quality of a current association between a wireless network client and an access point."

Applicants respectfully submit that Lee does not disclose, teach, or suggest such a metric.

Regarding claim 2, the Office Action alleges that "page 2 the analytical model" of Lee discloses "a metric comprises a received signal strength indicator." Applicants respectfully disagree. Applicants are unable to find any discussion of a received signal strength indicator on page 2 of Lee. If this rejection is maintained, applicants respectfully request that the Examiner clarify where on page 2 Lee describes the subject matter in question.

Regarding claim 3, the Office Action alleges that "the entire document" of Lee discloses "a metric comprises a current data rate." Applicants respectfully disagree. Applicants are unable to find any discussion of a current data rate in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "the entire document" Lee describes the subject matter in question.

Regarding claim 4, the Office Action alleges that "the entire document" of Lee discloses "a metric comprises a number of packet retries." Applicants respectfully disagree. Applicants are unable to find any discussion of a number of packet retries in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "the entire document" Lee describes the subject matter in question.

Regarding claim 5, the Office Action alleges that "the entire document" of Lee discloses "comparing a plurality of metrics against a plurality of thresholds, and setting the timer in response." Applicants respectfully disagree. Applicants are unable to find any discussion of Attorney Docket 80107.075US1

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comparing a plurality of metrics against a plurality of thresholds in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "the entire document" Lee describes the subject matter in question.

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Regarding claim 6, the Office Action alleges that "the entire document" of Lee discloses "a metric comprises a received signal strength indicator, and the threshold is dependent on the current data rate." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "the entire document" Lee describes the subject matter in question.

Regarding claim 7, the Office Action alleges that "page 1 the introduction" of Lee discloses "a method comprising setting a timer to one of a plurality of values to delay a roaming attempt by a mobile station in a wireless network, wherein the mobile station attempts to roam after the timer expires." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "page 1 the introduction" Lee describes the subject matter in question.

Regarding claim 8, the Office Action alleges that "page 2 the analytical model" of Lee discloses "a timer comprises comparing at least one metric to at least one threshold, and setting the timer in response." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "page 2 the analytical model" Lee describes the subject matter in question.

Regarding claim 9, the Office Action alleges that "page 2 the analytical model" of Lee discloses "the value to which the timer is set is influenced by a perceived quality of a current association." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "page 2 the analytical model" Lee describes the subject matter in question.

Regarding claim 10, the Office Action alleges that "page 2 the analytical model" of Lee discloses "the perceived quality of the current association is relatively low, the timer is set to a Attorney Docket 80107.075US1

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value that is relatively low." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "page 2 the analytical model" Lee describes the subject matter in question.

Regarding claim 11, the Office Action alleges that "page 2 the analytical model" of Lee discloses "the perceived quality of the current association is relatively high, the timer is set to a value that is relatively high." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "page 2 the analytical model" Lee describes the subject matter in question.

Regarding claim 12, the Office Action alleges that "page 2 the analytical model" of Lee discloses "a timer comprises setting a hardware timer." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "page 2 the analytical model" Lee describes the subject matter in question.

Regarding claim 13, the Office Action alleges that "page 2 the analytical model" of Lee discloses "a timer comprises setting a software timer." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "page 2 the analytical model" Lee describes the subject matter in question.

Regarding claim 14, the Office Action alleges that "page 1 the introduction" of Lee discloses "a first metric to a first threshold and conditionally setting a timer to a first value; comparing a second metric to a second threshold and conditionally setting the timer to a second value; and attempting to roam when the timer expires." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "page 1 the introduction" Lee describes the subject matter in question.

Regarding claim 15, the Office Action alleges that "page 1 the introduction" of Lee discloses "the first metric comprises a data rate." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained,

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applicants respectfully request that the Examiner clarify where in "page 1 the introduction" Lee describes the subject matter in question.

Regarding claim 16, the Office Action alleges that "page 2 the analytical model" of Lee discloses "first threshold corresponds to the lowest possible data rate." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "page 2 the analytical model" Lee describes the subject matter in question.

Regarding claim 17, the Office Action alleges that "page 1 the introduction" of Lee discloses "the second metric comprises a received signal strength indicator." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "page 1 the introduction" Lee describes the subject matter in question.

Regarding claim 18, the Office Action alleges that "page 2 the analytical model" of Lee discloses "second threshold is dependent on the current data rate." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "page 2 the analytical model" Lee describes the subject matter in question.

Regarding claim 19, the Office Action alleges that "page 1 the introduction" of Lee discloses "the second value is larger than the first value." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "page 1 the introduction" Lee describes the subject matter in question.

Regarding claim 20, the Office Action alleges that "page 1 the introduction" of Lee discloses "comparing a percentage of missed beacons to a threshold, and conditionally attempting to roam in response." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "page 1 the introduction" Lee describes the subject matter in question.

Regarding claim 21, the Office Action alleges that "page 1 the introduction" of Lee discloses "a apparatus including a medium adapted to hold machine-accessible instructions that Attorney Docket 80107.075US1

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when accessed result in a machine performing: comparing a first metric to a first threshold and conditionally setting a timer to a first value; comparing a second metric to a second threshold and conditionally setting the timer to a second value; and attempting to roam when the timer expires." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "page 1 the introduction" Lee describes the subject matter in question.

Regarding claim 22, the Office Action alleges that "page 1 the introduction" of Lee discloses "the first metric comprises a data rate." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "page 1 the introduction" Lee describes the subject matter in question.

Regarding claim 23, the Office Action alleges that "page 1 the introduction" of Lee discloses "the first threshold corresponds to the lowest possible data rate." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "page 1 the introduction" Lee describes the subject matter in question.

Regarding claim 24, the Office Action alleges that "page 1 the introduction" of Lee discloses "the second metric comprises a received signal strength indicator." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "page 1 the introduction" Lee describes the subject matter in question.

Regarding claim 25, the Office Action alleges that "page 1 the introduction" of Lee discloses "a apparatus comprising: a radio interface to interact with a wireless network; and a processor coupled to the radio interface, wherein the processor is adapted to set a timer based on a perceived quality of a current association, and further adapted to attempt roaming when the timer expires." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "page 1 the introduction" Lee describes the subject matter in question.

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Regarding claim 26, the Office Action alleges that "page 2 the analytical model" of Lee discloses "the timer is at least partially implemented in hardware." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "page 2 the analytical model" Lee describes the subject matter in question.

Regarding claim 27, the Office Action alleges that "page 2 the analytical model" of Lee discloses "the timer is at least partially implemented in software." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "page 2 the analytical model" Lee describes the subject matter in question.

Regarding claim 28, the Office Action alleges that "page 1 the introduction" of Lee discloses "a electronic system comprising: an omni-directional antenna; a radio interface coupled to the omni-directional antenna to interact with a wireless network; and a processor coupled to the radio interface, wherein the processor is adapted to set a timer based on a perceived quality of a current association, and further configured to attempt roaming when the timer expires."

Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "page 1 the introduction" Lee describes the subject matter in question.

Regarding claim 29, the Office Action alleges that "page 2 the analytical model" of Lee discloses "the timer is at least partially implemented in hardware." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "page 2 the analytical model" Lee describes the subject matter in question.

Regarding claim 30, the Office Action alleges that "page 2 the analytical model" of Lee discloses "the timer is at least partially implemented in software." Applicants respectfully disagree. Applicants are unable to find any such disclosure in the cited reference. If this rejection is maintained, applicants respectfully request that the Examiner clarify where in "page 2 the analytical model" Lee describes the subject matter in question.

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AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

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## Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (952-473-8800) to facilitate prosecution of this application.

Respectfully submitted,

JAYA L JEYASEELAN ET AL.

By their Representatives,

**Customer # 45445** 952-473-8800

Reg. No. 40,062

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 24. day of April, 2006.

Shellie Bailey

Signature